CLAIM AMENDMENTS

1.-14. (Cancelled)

15. (Previously Presented) A testing device for detecting and localising material inhomogeneities in electrically conductive samples comprising a holder for the sample to be tested, a temperature setting device for forming a temperature profile in the sample, and at least one measuring sensor for the contactless measurement of the magnetic field outside the sample, wherein several measuring sensors are provided at a different distance to the sample.

16. (Previously Presented) The testing device of claim 15, wherein the holder is connected to a rotational drive for rotating the sample.

17. (Previously Presented) The testing device of claim 15, wherein the measuring sensors comprise a Squid sensor.

18. (Previously Presented) The testing device of claim 17, wherein the Squid sensor is a Squid magnetometer.

19. (Previously Presented) The testing device of claim 17, wherein Squid sensor comprises a Squid gradiometer.

20. (Previously Presented) The testing device of claim 16, wherein the measuring sensors comprise a Squid sensor.

21. (Previously Presented) The testing device of claim 20, wherein the Squid sensor is a Squid magnetometer.

22. (Previously Presented) The testing device of claim 20, wherein Squid sensor comprises a Squid gradiometer.

23. (Currently Amended) A method for detecting and localising material inhomogeneities in electrically conductive samples, which method comprises (a) bringing a ~~wherein the~~ sample ~~is brought~~ to a predetermined temperature profile, (b) contactlessly measuring ~~and~~ the magnetic field outside the sample using ~~is contactlessly measured, wherein~~

~~the magnetic field outside the sample is measured with~~ several measuring sensors which are provided at a different distance to the sample, wherein the measuring resolution is increased, and whereupon material inhomogeneities are detected and localised.

24. (Previously Presented) The method of claim 23, wherein the sample is rotated.

25. (Previously Presented) The method of claim 23, wherein from the polarity of the measuring signal and the direction of the temperature gradient one may infer the type of homogeneity.

26. (Previously Presented) The method of claim 24, wherein from the polarity of the measuring signal and the direction of the temperature gradient one may infer the type of homogeneity.

27. (Previously Presented) The method of claim 23, wherein for the improved localization and shape determination of the inhomogeneity the temperature profile in the sample is differently set in subsequent measurements.

28. (Previously Presented) The method of claim 24, wherein for the improved localization and shape determination of the inhomogeneity the temperature profile in the sample is differently set in subsequent measurements.

29. (Previously Presented) The method of claim 25, wherein for the improved localization and shape determination of the inhomogeneity the temperature profile in the sample is differently set in subsequent measurements.

30. (Previously Presented) The method of claim 26, wherein for the improved localization and shape determination of the inhomogeneity the temperature profile in the sample is differently set in subsequent measurements.

31. (Previously Presented) The method of claim 23, wherein, in subsequent measurements, the magnetic field is measured at different distances to the sample.

32. (Previously Presented) The method of claim 23, wherein one simultaneously measures with several measuring sensors.